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DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

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(Monthly Reports)

FILE NO. 143

January 1922

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February 9, 1922

Dear Sir:

The following is my report on Yellowstone Park, and the operation of the park, for January, 1922:

I. GENERAL CONDITIONS:

The traffic and road conditions were about as usual during January. Daily trains arrived and departed from Gardiner over the Northern Pacific Railroad on the regular winter schedule throughout the month. The road from Headquarters to Gardiner was passable for motor vehicles, but over the first mile from Mammoth and at Headquarters it was necessary to use a small snow plow frequently to keep the paths open. Although less snow fell than usual, it drifted almost daily in places. The road from Gardiner to Cooke City, via our stations at Tower Falls, Soda Butte and the Buffalo Park, was used by light teams and saddle and pack animals for handling the mail and doing other necessary work. None of the other roads in the park were open.

Weather

The weather at park headquarters was unusual during January as shown by reports of the local office of the Weather Bureau and the enclosed monthly meteorological summary, in that the mean temperature was 12.6° , which is 5.1° below the normal for January. There have been but two lower monthly mean temperatures recorded for January in the past thirty-two years, namely, 7° in 1916 and 10° in 1990. There were eleven days with temperature zero or below, a greater number having been recorded only in 1916 and in 1907. While the average temperature through-

out the month was fairly even, giving the idea of a milder month than it really was. Two marked cold periods occurred, one from the 17th to the 21st, the other from the 28th to the end of the month, the former being more severe when the minimum temperature reached 25° below zero.

The total precipitation, which was entirely in the form of snow, was 0.74 inches, which is 1.50 inches below normal, the recorded snowfall being 8.1 inches, the normal being 20.6 inches. Light snow fell on twenty days during the month, the greatest depth on the ground being 17.8 inches on the 31st.

No high winds occurred and the maximum velocity of 27 miles on the 17th is the lowest of record for January. Sunshine - percentage of possible 52; normal 33.

The following table, giving depth of snow at various points in the park, is interesting for comparison:

	1921 Jan 31	1921 Dec 31	1922 Jan 31
	(Water content high)		
Mammoth	10.5	16	18
Morris Station	36	56	40
Riverside "	36	28	38
Gallatin "	24	13	
Bechler "	40	50	
Snake Rv. "	52	45	49
Thumb "	40	40	45
Lake "	41	32	33
Up. Yell. "	41	32	40
East Entrance	34	28	30
Canyon Station	50	48	43
Tower Falls "	24	22	26
Buffalo Ranch	22	20	26
Soda Butte Station	30	36	30
Crevice "		27	30
Hellroaring Cabin		18	26

Travel

The following table shows the number entering the park during January as compared with the number en-

tering during the same period, 1921:

	<u>Entering</u>	<u>C A F S</u> <u>Carrying</u>	<u>Hoals.</u>	<u>Total</u>
January, 1921	1	3	3	6
January, 1922	1	2	3	5

This travel was all via the northern railroad.

Labor and Supply Market

There being no demand for labor at this season of the year, there have been no changes in rates. Idle men in this vicinity in winter has always been the rule rather than the exception, and there appears to be only about the usual number.

The prices of supplies still shows a slightly downward tendency. A recent purchase of hay for next summer's use at \$12.50 per ton delivered in our sheds at Mammoth is cheaper than it has been before for several years.

Authority has been granted excepting us from the requirements of the Bureau of the Budget so far as being cleared through the General Supply Committee before purchase, in certain cases where there is a lack of sufficient time. This modification of regulations will greatly reduce this handicap during the working season.

II. PERSONNEL:

Employees

On January 1st there were 69 employees of various classes on duty under this office, which had been decreased to 68 by January 31st.

The following list shows the number of employees of various classes serving under appointment during the month, with a general statement of the kind of work in which they were engaged:

<u>No.</u>	<u>Class</u>	<u>Kind of work performed</u>
1	Asst. Engineer	In charge of engineering work in the park.

<u>No.</u>	<u>Class</u>	<u>Kind of work performed</u>
5	Clerks	1 Disbursing Agent and Purchasing Clerk; 1 on cost account work and property; 1 on time keeping, orders, proposals and vouchers; 2 stenographer-typists on stenographic work, files, etc.
2	Electricians	Read meters, did necessary line work, and operated power plant regular shifts, including Sundays.
3	Foreman	1 in charge of Headquarters Corral; 1 repairing sprinkler wagon; 1 on construction.
1	Telegraph Operator	Sent and received all Government Western Union messages; operated one shift on telephone switchboard.
1	Telephone Switchboard Operator	Operated telephone switchboard, daily shifts, including Sundays.
1	Master Mechanic	In charge of shops, and of repairs to heavy road machinery.
1	Blacksmith	General blacksmith work, including shoeing horses in shop, overhauling and repairing tools and equipment.
1	Master Painter	General shop work, including painting equipment and buildings.
1	Chief Lineman	In charge of power plant, telephone lines, and of maintenance crews on telephone lines.
7	Laborers	Teaming, freighting, assisting mechanics and miscellaneous work at headquarters.
1	Handyman	Acting Steward and Master of Transportation.
1	Chief Buffalo Keeper	In charge of tame buffalo herd.

2	Aast. Buffalo Keepers	1 assisting Buffalo Keeper; 1 in charge of hay ranch operations at Slough Creek.
1	Master Plumber	In charge of general plumbing and water and sewer systems.
3	Automobile Mechanics	2 repairing motor trucks and touring cars. 1 on duty at power plant.
1	Carpenter	Repairing buildings at headquarters.
2	Chief Park Rangers	In charge of ranger force. 1 Acting Game and Fish Warden to include Jan. 15, when title changed to that office. 1 effective Jan. 16, promoted from park ranger.
1	<i>1st Asst Ch</i> Park Ranger Fish and Game Warden	<i>In charge of Northern District</i> Appointment effective Jan. 16, 1921, special observation and reports on wild animals.
2	Aast. Chief Park Rangers	1 in charge of Southern district. 1 in charge of Western district.
22	Park Rangers	1 Acting Chief Ranger beginning Nov. 8, promoted to Chief Ranger effective Jan. 16, 1921. On duty in Chief Ranger's office, patrolling park borders, protecting and giving special attention to game and fish. 1 resigned effective January 6, 1922.
3	Temporary Park Rangers	Making patrols.

In addition to the regular employees listed above under appointment, the following were employed temporarily by the day:

	<u>On Jan. 1st</u>	<u>On Jan. 31st</u>
Skilled Laborers	4	3
Laborers	<u>1</u>	<u>2</u>
	5	5
Appointees	<u>64</u>	<u>63</u>
	69	68

Leaves of Absence

During January, annual leaves of absence
were granted as follows:

Julia S. Stockett	Stenog-Typist	Jan. 1-5, 3 days
Andrew R. Edwin	Clerk	Jan. 7-7, 1 day
Wendell M. Bishop	Park Ranger	Jan. 1-5, 3 days
Nellie Roach	Telephone Oper.	Jan. 1-4, 2 days
Calvin O. Davis	Park Ranger	Jan. 1-16, 12 days
Harry Trischman	1st Asst. Chief Park Ranger	Jan. 1-4, 2 days
James McBride	Chief Ranger	Jan 9 (noon)-Jan. 12 (noon) 3 da.
Harry McFarland	Foreman	Jan. 8-Jan. 29, 18 days
Chester L. Butler	Park Ranger	Jan. 8-Jan. 21 (noon) 17½ days
James H. Dupuis	" "	Jan. 10-Jan. 21 (noon) 10½ days
John A. Walls	" "	Jan. 10-Jan. 19, 9 days
Alfred O. D. Henman	Laborer	Jan. 16, 21 & 28, 3 days
Andrew R. Edwin	Clerk	Jan. 14-Jan. 14, 1 day
Deane T. White	Foreman	Jan. 23-Jan. 28, 6 days
Francis E. Bregdon	Asst. Electrician	Jan. 10-18, 9 days, Sick Leave
Wm. J. O'Laughlin	Laborer	Jan. 1-Jan. 8, 7 days, Sick Leave
John D. Fraser	Auto Mechanic	Jan. 19-Jan. 21, 3 days
Julia S. Stockett	Stenog-Typist	Jan. 17-Jan. 17 (noon) ½ day
A. C. Neuman	Master Painter	Jan. 16, 23, & 30, 3 days
Floyd R. Harriott	Laborer	Jan. 23-Jan. 25, 3 days
B. C. Lacombe	Chief Buffalo Keeper	Jan. 1-6 (noon), 5½ da. Sick Leave
B. C. Lacombe	"	Jan. 6 (noon)-26, 17½ days
A. W. Burney	Asst. Engineer	Jan. 30-31, 2 days
Roy K. Gray	Laborer	Jan. 28 (noon)-28, ½ day
Francis E. Bregdon	Asst. Electrician	Jan. 28-31, 3 days
Charlie R. Stinnett	Blacksmith	Jan. 10-12 (noon), 2½ days
Charlie R. Stinnett	"	Jan. 25, Jan. 25, 1 day.

Separations

Samuel T. Woodring, park ranger, \$1200 p.a., promoted to Chief
Park Ranger, \$1620 p.a., effective January 16th,
1922.

James McBride, Chief Park Ranger, \$1620 p.a., promoted to Fish
and Game Warden, \$1500 p.a., effective January 16,
1922.

Wendell M. Bishop, park ranger, \$1320 p.a., resigned close of
January 5, 1922.

Appointments

Samuel T. Woodring, Chief Park Ranger, \$1620 p.a., effective January 16, 1922.

James McBride, Fish and Game Warden, \$1500 p.a., effective January 16, 1922.

III. WORK COMPLETED:

As there was no heavy construction or maintenance work in progress there is nothing to report under this head except as referred to under future headings.

IV. WORK IN PROGRESS:

(a) Construction of Physical Improvements

Nothing to report

(b) Maintenance and Repair of Physical Improvements

Nothing to report

(c) Miscellaneous Improvement Work

Considerable progress was made in the work of installing a steam heating system in the building used for shops. The concrete for the boiler pits was run and about half of the concrete ditches for the main pipes were completed. The work is held up at the present time awaiting more cement to complete the job.

Painting Department: The Master Painter and his assistant completed the renovating of the stone quarters assigned to Assistant Engineer Bursay and did two other small jobs of calcimining and renovating employees' quarters. They also inventoried their supplies and straightened up the paint shop. Foreman Wm. Ferrell, with one helper, continued the work of over-hauling, repairing and painting water wagons. At the end of January seven sprinkler wagons had been completed.

The Master Plumber and his assistant devoted their time to repairs and maintenance of the water and sewer systems, including some slight changes in employees' quarters that were necessary.

During the month a marked decrease in pressure on

the water mains indicated that there was a break. A careful system of testing the pressure at various points showed that the break was on the West side of the system somewhere in the vicinity of the upper end of the Mammoth Hotel. Much time was devoted in trying to locate this break exactly but it was not until about February 3rd and after digging up the main in several places that it was finally located. It occurred at a point in the middle of the main road just above Mammoth Hotel, where several years ago a cave in the Hot Springs formation underneath the road made it necessary for the Engineer Department to construct a concrete arch to bridge the chasm and support the roadway. The four-inch water main runs underneath and about the center of this arch at a depth of about six feet from the surface. A photograph showing the break in the main and giving some idea of the extent of the cavern is enclosed.

The pipe had been supported by cables anchored to the concrete arch. They had rusted off, allowing the pipe to sink and it had broken at a joint, allowing all the water in the main to escape into the formation, which is very porous at this point, greatly reducing the normal pressure of the mains throughout the system. As a temporary expedient the main will be cut at this point and both ends plugged, as permanent repairs at this time of the year would be expensive as the digging is very difficult due to frost.

Examination of this break from underneath the arch indicates that the formation under the arch has settled several feet since it was put in and it is apparent that the supports of the arch have disintegrated to such an extent that there is a great question as to whether or not the arch is still safe to support heavy loads. It will therefore be necessary, after the frost leaves the ground, to take this up and probably make extensive repairs which will cost perhaps several hundred dollars.

Headquarters Corral: The force at the headquarters corral consisted of a foreman, in charge of stables and equipment, and one teamster. In addition to doing the necessary police work and regular winter duties about headquarters these men looked after the work at the ice pond incident to preparing it for putting up ice.

An examination of the ice on the old reservoir the latter part of December revealed the fact that so much snow had fallen during that month and there had been so many days of thawing that the ice was not of a good quality. It was decided to try and freeze a new crop on the concrete reservoir, and most of the water was cut off from it and turned into the old reservoir from which the Power Plant was supplied. This was very successful and by the end of January was nearly thick enough to begin cutting and was of a beautiful quality.

The Carpenter did small repair jobs in connection with maintenance of buildings at headquarters and devoted considerable time to the work of installing the heating plant, making forms for concrete, etc.

The Blacksmith also assisted in the work of remodeling the shop building and also worked on repairing equipment, shoeing horses and general blacksmith work.

The mechanics at the Garage repaired motor vehicles and at times assisted in the work of remodeling the shops. The progress made on the January over-hauling of motor vehicles to date by this force is as follows:

- 1 five-ton White truck, thoroughly overhauled. Work completed.
- 2 Mack quad trucks, two tons, thoroughly overhauled, work completed.
- 3 International trucks, 2 ton, thoroughly overhauled, work completed, except for supplying one part which has been ordered, and placing the box on two of them which is to be done after they are in the paint shop.
- 1 signal truck, $1\frac{1}{2}$ ton, thoroughly overhauled, work completed.
- 2 White touring cars, taken down and overhauled. Completion of work waiting for parts which have been ordered.
- 1 Mack truck, five and one-half ton, taken down and waiting parts.
- 1 Ford service car, overhauled. Complete except for a new piston which has been ordered.

The Telephone System and Power Plant were maintained by the regular force under the usual conditions. As the force was short-handed due to some of them taking leaves of absence during the month but little was done outside of the regular operation of the plant and switchboard. The Power Plant was run constantly during the month, using three operators, eight hour shifts each. The results as compared with those of January 1921 are shown as follows:

	<u>1921</u>	<u>1922</u>
Total current generated in KW hrs.	12,750	20,280
Of this, sold to public utilities @ 5¢ per KW hour	900	1,242.4
Consumed for Street Lighting	1,239	3,060
Balance, consumed in lighting government buildings, supplying power to shops, lost in transit, etc.	10,611	15,977.6
Peak load during the month in kilowatts	56	60

The Switchboard and Telegraph Office was operated from 7:30 A.M. to 3:45 P.M., the number of messages handled during the month was as follows:

Switchboard Calls:

On Govt. local lines	3,132	
" Hotel Co. " "	198	
" Long Distance Connections (31 in, 16 out)	47	
		<u>3,377</u>

Telegrams Handled:

Government sent	68		
" rec'd.	33		
Commercial sent	23	101	
" rec'd	19	42	
			<u>143</u>
Total messages handled			<u>3,520</u>

The Transportation and Storehouse Force, consisted of the Acting Master of Transportation, one assistant and one laborer, did the necessary hauling from the railroad to park headquarters and assisted in the storehouse when not so engaged. One carload of lumber was received and stored at Gardiner. About twenty-nine tons of supplies, consisting of oats, hay, cement and miscellaneous supplies were hauled from Gardiner to headquarters and stored. The work of inventoring property and supplies, sorting out unserviceable property and posting up the property returns were continued as time permitted.

Office Force: The Assistant Engineer devoted himself to office work, filing and indexing maps and records, etc. He also prepared during the month a manual of rules and regulations for employees and has submitted this to the Superintendent for approval.

The usual routine work was accomplished in the office, including correspondence, filing, answering questionnaires, of which several were received during the month, often requiring considerable research to get the information wanted, and the handling of the financial matters of the park. 806 letters and communications were received and 679 sent out during January.

In the Chief Ranger's office steps were taken to prepare a list of applicants for positions as temporary rangers for next summer and correspondence was had with a large number of likely candidates. The question of selection and purchase of proper uniforms for next summer was also considered.

Protective Force

On January 16th the appointment of Mr. Woodring as Chief Ranger, vice Mr. McBride, took effect and on the same date Mr. McBride's appointment as Fish and Game Warden became effective. This did not materially effect the duties, however, as both had been assigned to the special duties of these two offices by a circular effective November 6, last, Mr. Woodring having assumed the duties of Chief Ranger and Mr. McBride those of making special observations of the conditions of the wild animals and making special reports thereon.

Chief Ranger Woodring made several patrols throughout the northern district, including the Buffalo Ranch, Slough Creek, Hellroaring, Grevice Mountain, the country adjacent to Gardiner and he also covered considerable of the country outside of the park along the line, where several hundred of our elk are found at this time of the year. He investigated the reports and conditions on the outside and took pictures of haystacks reported to have been damaged by elk, kept in touch

with representatives of the Forest Service and the State Game Department, engaged in protection of wild animals just outside of the park, and got all the information possible in regard to violation of laws, arrests, etc.

Mr. McBride covered about the same country but at different times, spending most of his time in the saddle, investigating the condition of the wild animals and giving special attention to the feeding on Slough Creek.

First Assistant Chief Ranger Harry Trischman also made extensive general patrols over this same district, which is by far the most important of any patrol work that we have in winter. The rangers stationed in this district also made extensive and constant patrols over their territory. The ranger at Hellroaring Cabin was especially charged with trying to hold a herd of about six hundred elk from drifting outside of the park. The men on Grevice station, and at Gardiner, both on the park line, made some effort to hold the game inside the park but when their efforts were found to be futile and after several hundred elk had gotten outside it was decided that they could accomplish more by assisting the State Game Wardens in protecting these animals and their patrols are now being made with this in view. Much of their time is spent outside of the park.

In the western district one patrol was made from Riverside Station to the Upper Geyser Basin to clear the snow off of the buildings and make observations of geyser activities. The Riverside Rangers also made patrols along the park line. At Gallatin Station one ranger was on leave until the 17th. Regular patrols were made by the men at this station.

In the southern district Assistant Chief Ranger Douglas returned to the Lake from Bechler Station, made a patrol to the top of Sylvan Pass, repairing the telephone line, and patrolled the Pelican Creek country, taking rangers with him from the various stations as he went along. Regular patrols were made at the other stations.

Buffalo Keeper Lacombe returned from leave the latter part of January, when Park Ranger Webb had been sent assigned to assist at the Buffalo Ranch. Assistant Chief Ranger Scoyen was brought in from Riverside station for work in the Chief Ranger's office until some other ranger could be assigned to this duty.

Improvements by Park Utilities

No change was made in the number of employees of the various concessioners in the park from December. The Camps Company had three men employed at headquarters overhauling their equipment, and the Transportation Company had a few men painting, and one man who ran the mail stage between Mammoth and Gardiner.

VI. PLANS OR PROPOSED WORK:

Plans for February include the continuance of the work now in progress as outlined under previous headings, putting up ice at park headquarters; the painters beginning the work of repainting the trucks and other motor vehicles after they have been overhauled in the garage, and the laying of a hardwood floor in the front rooms of the first story of the Superintendent's quarters. The ranger force is to continue intensive patrols along the north boundary, both inside and outside of the park, with an idea of keeping as close a touch on the condition of elk and other animals as may be possible.

very seriously There ^{will be} has been an even greater activity, if possible, in the hunting down of coyotes and wolves which are beginning to pray furiously upon the antelope and young elk and deer. The feeding and care of the tame buffalo will continue and probably it will be found advisable to continue the feeding of the elk on Slough Creek as the intense cold is beginning to tell upon the elk herds.

VII. POLICIES:

No new policies were adopted during the month.

VIII. COST OF OPERATIONS:

This data will be shown by the Cost Report which has not yet been completed but will be forwarded as soon as it can be..

IX. OTHER MATTERS OF INTEREST:

Wild Animals

The notes made by the various men patrolling the northern district in the interest of holding, protecting and feeding the wild animals agree pretty generally and indicate that while there has been plenty of feed on the range, as a rule the elk were ranging on high ground and are scattered in small bunches and very difficult to count. Up to the end

of December everyone agreed that they were in most excellent condition. By reference to the enclosed weather reports it will be noted that January was an exceedingly cold month, the average temperature having been colder but two Januarys during the past thirty-two years. The cold was so well distributed, 25° being the coldest recorded, that it was hardly noticeable and without the records, one accustomed to the climate would think it was a reasonably mild January, but this continuous excessive cold had its effect upon our elk and other wild animals and probably accounts for several hundred of them having left the park, and quite a number of them, especially the last year's calves, are beginning to show signs of distress. We shall continue to watch the conditions very closely.

Quite a large herd has been fed at Clough Creek all winter. About 149 tons of hay are available at Gardiner for feeding if it is found absolutely necessary though this measure is inadvisable unless to save a large number from dying.

Most of the older animals are still in good condition but if the severe cold continues much longer it will tell on them. The snow is deeper than usual and crusted in the lower valleys from those which occurred late in December and early in January, but the snow conditions high up in the mountains are still quite unusual and are remarked upon by everyone who has had occasion to note them. The snow is not as deep as usual and is granulated in form, so that the game can readily paw down to the grass; and everyone reports that the animals that are found on the higher ranges are in better condition than are those in the valleys.

Antelope: Practically all of our antelope are, as usual, wintering along the north line in the vicinity of Gardiner. The rangers at Gardiner report a count of 340 during January. As the winter advances the coyotes appear to be more numerous and are beginning to make incursions upon the antelope. During the month 27 dead ones are found, most of them having been killed by coyotes. Immediate steps were taken to use every available means to protect the antelope. One hunter had been busy in the vicinity of Gardiner all winter. Another one, Ranger Anderson, was moved in from the Tower Falls district and has since gotten excellent results.

Buffalo, tame herd: Practically the whole herd was feed at the Buffalo Ranch during the month. A few head occasionally drifted to Slough Creek and had to be driven back. Two or three hundred elk in the vicinity of the Buffalo Ranch have become very tame and interfered seriously with the feeding of the buffalo, breaking the fences around the stacks and causing much trouble. It was finally necessary to establish a camp in the vicinity of the stacks and keep men on guard to protect them.

One old buffalo bull which was crippled, was found dead on Slough Creek during the month. It probably died from old age.

About 87 tons of hay were feed to the tame buffalo during January.

Buffalo, wild herd: Assistant Chief Ranger Douglas made one patrol over the Pelican country and saw six head of the wild herd. The conditions of travel were so difficult that he was unable to get a complete survey of the country but it was evident that this herd was scattered over considerable territory. Further efforts will be made to locate this herd a little later.

Deer: The deer are well scattered throughout the northern district and quite a number are wintering outside of the park. There are about thirty-five or forty around Mammoth, about fifty between Mammoth and Gardiner and about thirty-five on the west slope of Mt. Everts, and they were noted in scattered bunches throughout the northern district by rangers making patrols. They are in good condition but they, as well as the antelope, are being killed to some extent by the coyotes.

Elk: Reports from all sources indicate that the elk are still more scattered than usual for this time of the year and that many of them are still ranging on high ground. The West Gallatin herd is mostly outside of the park and pretty well scattered through the upper valley of the West Gallatin. A few of this herd is as usual wintering in open places in the park but most of them go outside where there seems to be abundant range.

Reports from men in the western district indicate an unusual number of elk wintering inside of the park along the Madison and Firehole Rivers. An effort will be made to

get special reports on this herd during February.

The efforts of the Chief Ranger, one of his assistants, the Game Warden and the rangers stationed in the northern district were directed principally during January to observations and care of the main northern herd of elk. The attempts to keep them inside of the park line were not successful save to a very limited extent. This practice was abandoned during January except for a bunch of five or six hundred that are wintering in Hellroaring. The men at Creville and Gardiner stations who had devoted much of their time to trying to hold the elk inside of the park have been instructed to direct their efforts in protecting the elk wherever found, both inside and outside of the park, rather than try to hold them to any particular district, and to this end they are working in cooperation with the representatives of the Fish and Game Commission of the State of Montana and the United States Forest Service adjoining the park, and their combined efforts have been fairly successful so far as protection from poaches is concerned.

Our men have made several extensive patrols outside of the park and from their reports and those of the Game Wardens it appears that there are from one to two thousand elk ranging in the Yellowstone Valley from the park line down as far as Bally. The elk have in two or three cases broken into haystacks and there have been some complaints of their depredations but from the best information obtainable these depredations are not very extensive to date.

The elk ranging on Slough Creek were fed daily at the two hay ranches. About one hundred tons of hay were fed during the month and approximately 1500 elk are eating this hay. In view of the fact that many of our elk are beginning to show signs of weakness due to the cold winter it is advisable to continue the feeding of this herd on Slough Creek to insure their coming through the winter in good condition.

Eight dead elk were reported during January, five of them being inside of the park. The prospects are that quite a number of calves and old animals may die before Spring but up to this time the question has not been serious enough to warrant the purchase of hay for feeding on a large scale.

Moose: No special mention of moose was made in reports of patrols during January.

Mountain Sheep: One hundred and eight mountain sheep were noted at Junction Butte near Tower Falls, one at Silver Gate and forty-six in Gardiner Canyon and on Mount Evans. Chief Ranger Woodring estimates from reports he has received that there are about one hundred and seventy-five in the northern district at the present time.

Predatory animals: Park Ranger Harry Anderson devoted most of his time to killing predatory animals and succeeded in killing about 27 coyotes. About 30 more were killed in the vicinity of Gardiner and Mammoth by others. Coyotes are more and more in evidence as the winter progresses and the deer, elk and antelope begin to get weak and are then easily hunted down. The antelope suffered especially during January, and great efforts are being made to protect them by hunting, trapping and poisoning coyotes on their ranges. The situation is now well in hand, and it is believed that further extensive depredations may be avoided.

Conditions outside of the Park

As heretofore noted several hundred elk have left the park and are scattered in small bands from the park line north down the Yellowstone Valley for about fifteen miles. They are so widely scattered and in such small bunches that it is impossible to get an accurate estimate of their number. The Montana game wardens and the officials of the Absaroka National Forest are uniting their efforts, with such assistance as we can give them, to protect these animals from the depredations of poachers, and so far have been reasonably successful. The Forest Service has one man stationed at Caribou, one at Gardiner and Cedar Creek and two at Hellroaring. The State has one deputy at Gardiner and two at Electric, Montana, on the west side of the Yellowstone River, which is a State Game Preserve. Two of our rangers stationed at Crevice devoted most of their time to patrols outside of the park and the two men at Gardiner patrolled both inside and out as occasion demanded.

These men are all working together and have been instrumental in causing several arrests and convictions for violations of game laws. During January the carcasses of two elk that had been illegally killed were found near Dally, killed for meat. One cow elk was killed at the Cement ranch, about

two miles below Gardiner and the hind quarters taken for meat. One young bull was killed on Cedar Creek, apparently for the teeth. Two animals were wounded in the vicinity of Jardine. Every effort was made to secure evidence in these cases but so far without success. The several convictions secured in December, however, and the activity of the present patrols have had their effect and I feel that we are holding the poaching down to a minimum.

Cooperation with State Wardens and Forest Service. Mr. C. A. Jakways, State Game and Fish Warden of Montana, visited Gardiner and vicinity January 22nd to 24th, remaining in the park the night of January 23rd. He has held the office but a short time and came with the intention of getting as much first hand information relating to the problem of winter range for elk and the handling of the elk herds - which is one of the most important which the State has to solve - as he possibly could previous to a meeting of his game commission in Great Falls on January 28th.

He has a scheme for providing winter range for the elk herds that summer in the park and go out into Montana during the winter, but before pushing it was anxious to acquaint himself with the problem on the grounds and also to get acquainted and secure an idea of the policy of the National Park Service and of the Forest Service regarding this herd. He seems very earnest in his intentions and has already made some wonderful improvements in the manner of handling the problem of protecting the game in Montana and I believe that we shall find him to be a man with whom we can cooperate to the fullest extent.

On January 27th I had a call from Mr. Ernest Shaw, Supervisor of the Absaroka Forest and his ranger, Crane, who is stationed at Gardiner. From them I secured considerable information relating to the conditions outside of the park, and their observations agree in general with other reports which have been received. All agree, however, that specific data about the elk as to number and range is extremely hard to get due to the fact that they are so much scattered and ranging so high in the mountains. Mr. Shaw is spending considerable time in this district just outside of the park in company with representatives of the United States Agricultural Department of Washington, making some moving pictures in connection with the game protection idea. So far, they have been able to get all the pictures outside

though Mr. Shaw intimated that they might want to come into the park for some of them. He seems anxious to cooperate in the protection of the wild animals but from his conversation I judge that there is more or less friction between the higher authorities of his Department and the State Game Department although the men on the ground appear to be working in harmony.

Domestic Animals

Surplus saddle and team horses owned by the Government and not needed in winter are being foraged at Yanceys, on hay cut there for that purpose, and being looked after by a member of the ranger force. ⁴² horses are being so fed. We had 150 tons of hay available for feeding there last fall, and to date about ³⁵ tons have been fed.

Birds

Ducks of several varieties are wintering on Gardiner River and in the vicinity of Mammoth Hot Springs where they find an abundance of feed in the warm water, and are much in evidence. A few other winter birds including Clarke Crows, Magpies, Water Ousels and Jays are seen. Special observations of birds are being made by the ranger force for reports to the United States Biological Survey, at the request of that Bureau.

Accidents and Casualties.

None reported except of a very minor nature.

Sickness and Medical Service

No very serious cases of illness among park residents were recorded. Such as occurred were taken care of by Doctor Crawback under his contract with employees, except in one or two cases requiring special hospital attention, which were sent out for treatment. Doctor Crawback reported having made ⁴⁰ official calls during the month.

Natural Phenomena

The hot springs on top of Jupiter Terrace continue to show unusual activity, especially towards the south. The Beehive Geyser played again on January 27th.

Motion Pictures

Mr. C. D. Sinkey, representative of the Fox Film Corporation of New York, whose permit #1 was issued December 19, operated his motion picture camera in the park January 8th-11th, inclusive. His operations were confined to a few of the animals in the vicinity of Gardiner and Mammoth as his time was limited and he said that he had nearly everything in that line that he wanted and only wanted to get a few special pictures.

Special Visitors

C.A.
Mr. J. J. Jaksy, State Game Warden of Montana, visited Mammoth Hot Springs over night on January 23rd in connection with cooperative work between his department and the Park Service, relating to the protection of game along the northern boundary line of the park. Mr. Ernest Shaw, Supervisor of the Absaroka National Forest, with headquarters at Livingston, Montana, with one of his forest rangers, visited park headquarters on January 27th in connection with the same cooperative work.

School

The school for children of park residents was maintained by Mrs. Harriott at the usual standard of efficiency during the month. A copy of her monthly report is enclosed.

Miscellaneous

Entertainments: Weekly entertainments consisting of picture shows, followed by short dances, were held by park employees in the Amusement Hall at headquarters weekly throughout January.

Religious Services: Services were held in the Chapel once only during the month, namely, on the evening of January 22nd, the Rev. C. H. Davidson of the Norwegian Lutheran Church of Bozeman officiating.

IX. RECEIPTS AND REMITTANCES:

The monthly report of revenues due, collected, and transmitted during December, on the regular blank forms, is enclosed in duplicate. The total amount enclosed, namely, \$7.20, is described as follows:

Postal Money Order No. 48159, dated January
12, 1922, drawn by the Postmaster
at Yellowstone Park, Wyoming, on
the Postmaster at Washington, D.C.
amount

\$ 4.55

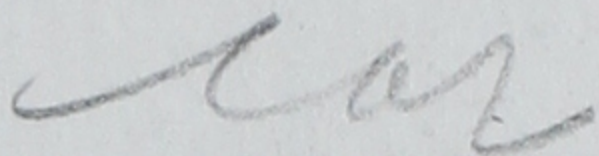
Check No. 1664, dated January 20, 1922, drawn
by Yellowstone Park Camps Company,
Livingston, Montana, on the North-
western National Bank, Livingston,
to your order, amount

2.35

\$ 7.20

Acknowledgment of the receipt of the enclosed
money is requested.

Cordially yours,


Chester A. Lindsley,
Acting Superintendent.

The Director,
National Park Service,
Department of the Interior,
Washington, D. C.

Enclosures.

CAL:JSS



Cordially yours,

CL

Chester A. Lindsley,
Acting Superintendent.

The Director,
National Park Service,
Department of the Interior,
Washington, D. C.

Enclosure.

L.H.

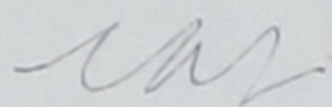
1922

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January 28, 1922

Dear Sir:

Kindly substitute the enclosed Page 6 of my monthly report for December for the one on file in your office. Correction of two errors has been made, one in the number of temporary park rangers, the other in leave status of Buffalo Keeper Lacombe, whose exact status was not known when the leave was taken.

Cordially yours,



Chester A. Lindsley,
Acting Superintendent.

The Director,
National Park Service,
Department of the Interior,
Washington, D. C.

Enclosure.

ZH.